

**Amendment to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

Claim 1 (currently amended): A gateway network element that provides access to network elements that are not directly reachable, comprising:

a processor that is directed by code;

code that receives and sends packets over a first IP based interface to a first network;

code that receives and sends packets over a second IP based interface to a second network, wherein IP addresses of network elements in the second network are not visible to network elements in the first network;

~~code that filters out packets received over the second IP based interface that specify the gateway network element as a source of the packets; and~~

~~code for categorizing the received packets based on the interface over which the packet was received, type of packet, and whether the destination address specifies the gateway network element; and~~

code that selects and applies a first set of filtering rules to the received packets based on a category of the received packet, wherein each set of said filtering rules differ from said other sets of filtering rules over the first IP based interface and a second set of filtering rules to packets received at the second IP based interface, wherein said first and second set of rules specify acceptable destination addresses for the packets;

wherein the first network is a Data Communications Network (DCN) and the second network is a Data Communication Channel (DCC) and the code that applies said filtering rules provides separation between the DCN network and the DCC network.

**Claim 2 (original):** The gateway network element of claim 1, further comprising code that sends packets over the first IP based interface only when the packets specify the gateway network element as the source.

**Claim 3 (original):** The gateway network element of claim 1, further comprising code that accepts packets received over the first IP based interface if the destination address specifies the gateway network element, a subnet broadcast address or a multicast address.

**Claim 4 (original):** The gateway network element of claim 1, further comprising code that implements a proxy server that provides forwarding between IP address of the first and second networks.

**Claim 5 (canceled).**

**Claim 6 (canceled).**

**Claim 7 (currently amended):** A gateway network element that provides access to network elements that are not directly reachable, comprising:

a processor that is directed by code;  
means for receiving and sending packets over a first IP based interface to a first network;  
means for receiving and sending packets over a second IP based interface to a second network, wherein IP addresses of network elements in the second network are not visible to network elements in the first network;

~~means for filtering out packets received over the second IP based interface that specify the gateway network element as a source of the packets; and~~

means for categorizing the received packets based on the interface over which the packet was received, type of packet, and whether the destination address specifies the gateway network element; and

means for selecting and applying a first set of filtering rules to the received packets based on a category of the received packet, wherein each set of said filtering rules differ from said other sets of filtering rules over the first IP based interface and a second set of filtering rules to packets received at the second IP based interface, wherein said first and second set of rules specify acceptable destination addresses for the packets;

wherein the first network is a Data Communications Network (DCN) and the second network is a Data Communication Channel (DCC) and the code that applies said filtering rules provides separation between the DCN network and the DCC network.

Claim 8 (currently amended): A method for providing access to network elements that are not directly reachable, comprising:

receiving and sending packets over a first IP based interface to a first network;

receiving and sending packets over a second IP based interface to a second network, wherein IP addresses of network elements in the second network are not visible to network elements in the first network;

~~filtering out packets received over the second IP based interface that specify the gateway network element as a source of the packets;~~

categorizing the received packets based on the interface over which the packet was received, type of packet, and whether the destination address specifies the gateway network element; and

selecting and applying a first set of filtering rules to the received packets based on a category of the received packet, wherein each set of said filtering rules differ from said other sets of filtering rules over the first IP based interface and a second set of filtering rules to packets received at the second IP based interface, wherein said first and second set of rules specify acceptable destination addresses for the packets;

wherein the first network is a Data Communications Network (DCN) and the second network is a Data Communication Channel (DCC) and applying said filtering rules provides separation between the DCN network and the DCC network.

Claim 9 (original): The method of claim 8, further comprising sending packets over the first IP based interface that specify the gateway network element as the source.

Claim 10 (original): The method of claim 8, further comprising accepting packets received over the first IP based interface if the destination address specifies the gateway network element, a subnet broadcast address or a multicast address.

Claim 11 (original): The method of claim 8, further comprising accepting packets received over the second IP based interface if the destination address specifies the gateway network element, a network element in the second network or a multicast address.

Claim 12 (original): The method of claim 8, further comprising implementing a proxy server that provides forwarding between IP address of the first and second networks.

Claim 13 (canceled).

Claim 14 (canceled).

Claim 15 (canceled).

Claim 16 (canceled).

Claim 17 (canceled).

Claim 18 (previously presented): The gateway network element of claim 1 further comprising:

code that accepts packets received over the first IP based interface if the destination address specifies the gateway network element, a subnet broadcast address or a multicast address; and

code that accepts packets received over the second IP based interface if the destination address specifies the gateway network element, a network element in the second network or a multicast address.

Claim 19 (currently amended): The gateway network element of claim 1 ~~further comprising code that applies a third wherein one set of filtering rules filters to~~ packets received over the first IP based interface with a destination address of the gateway network element and ~~a another set fourth set of filtering rules to filters~~ packets received at the second IP based interface with a destination address of the gateway network element.

Claim 20 (canceled).

Claim 21 (previously presented): The gateway network element of claim 1 further comprising code that tunnels connections between a client node and a DCC-connected network element.

Claim 22 (canceled).

Claim 23 (previously presented): The gateway network element of claim 1 wherein the first network comprises to a Wide Area Network (WAN) and the second network comprises a Local Area Network (LAN).

Claim 24 (new): The gateway network element of claim 7 further comprising means for forwarding filtered packets for analysis.

Claim 25 (new): The gateway network element of claim 7 wherein one set of filtering rules filters packets received over the first IP based interface with a destination address of the gateway network element and another set of filtering rules filters packets received at the second IP based interface with a destination address of the gateway network element.

Claim 26 (new): The gateway network element of claim 7, further comprising means for implementing a proxy server that provides forwarding between IP addresses of the first and second networks.

Claim 27 (new): The gateway network element of claim 1 wherein one of said categories comprises packets received from the first network and another of said categories comprises packets received from the second network.

Claim 28 (new): The gateway network element of claim 27 wherein one of said categories comprises packets addressed to the gateway network element